

# **The correlation between chronic psychosocial stress and body fatness in children between 6 and 10 years old**

by

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In recent decades, a worldwide epidemic increase of overweight and obesity is found in both children and adults. Especially in children the situation is alarming as obese children are more likely to become obese adults. Recent research indicates that in addition to diet and physical activity, also chronic psychosocial stress would be a potential determinant of obesity.

In this context, this project will study the association between chronic psychosocial stress and changes in body fat in children from 6 to 10 years old. For this purpose a sample of 500 children from an international study will be tested in a prospective and observational way.

Body composition is determined both directly (bio-impedance and BodPod) and indirectly (height, weight, circumferences and skinfolds). Influencing factors such as diet, physical activity and genetics are also considered. Stress is studied through questionnaires and biomarkers. The questionnaires for children and parents gauge stress-inducing life events, the stress-coping and feelings of the child. As biomarker, cortisol is measured in a non-invasive way in saliva. Furthermore the hypothesis that stress leads to a reduced heart rate variability, will be tested by special heartbeat registration.

The first results of this ongoing study are expected late 2010. If a confirmation of the hypothesis about the association stress - obesity follows, a new focus on obesity prevention will be born. Apart from this, also some conclusions can rise about the methodology by studying the results of the questionnaires mutually and by comparing them with the biomarker.

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